

July 18, 2023

Docket No.: 52-026

ND-23-0483
10 CFR 52.99(c)(1)U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555-0001

Southern Nuclear Operating Company
Vogtle Electric Generating Plant Unit 4
ITAAC Closure Notification on Completion of ITAAC 2.1.01.04 [Index Number 4]

Ladies and Gentlemen:

In accordance with 10 CFR 52.99(c)(1), the purpose of this letter is to notify the Nuclear Regulatory Commission (NRC) of the completion of Vogtle Electric Generating Plant (VEGP) Unit 4 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Item 2.1.01.04 [Index Number 4]. This ITAAC confirms the following:

1. The Fuel Handling and Refueling System (FHS) has a refueling machine (RM), a fuel handling machine (FHM), and new and spent fuel storage racks.
2. The RM and FHM/Spent Fuel Handling Tool (SFHT) gripper assemblies will not open while suspending a dummy test assembly.
3. The bottom of the dummy fuel assembly cannot be raised to within 24 ft-6 in of the operating deck floor.
4. The RM and FHM is located on the nuclear island.
5. The new and spent fuel storage racks are located on the nuclear island.

The closure process for this ITAAC is based on the guidance described in Nuclear Energy Institute (NEI) 08-01, "Industry Guideline for the ITAAC Closure Process under 10 CFR Part 52," which was endorsed by the NRC in Regulatory Guide 1.215.

This letter contains no new NRC regulatory commitments. Southern Nuclear Operating Company (SNC) requests NRC staff confirmation of this determination and publication of the required notice in the Federal Register per 10 CFR 52.99.

If there are any questions, please contact Kelli Roberts at 706-848-6991.

Respectfully submitted,



Jamie M. Coleman
Regulatory Affairs Director Vogtle 3 & 4

Enclosure: Vogtle Electric Generating Plant (VEGP) Unit 4
Completion of ITAAC 2.1.01.04 [Index Number 4]

JMC/ALH/sfr

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cc: Regional Administrator, Region II
 Director, Office of Nuclear Reactor Regulation (NRR)
 Director, Vogtle Project Office NRR
 Senior Resident Inspector – Vogtle 3 & 4

**Southern Nuclear Operating Company
ND-23-0483
Enclosure**

**Vogtle Electric Generating Plant (VEGP) Unit 4
Completion of ITAAC 2.1.01.04 [Index Number 4]**

ITAAC Statement

Design Commitment

2. The FHS has the refueling machine (RM), the fuel handling machine (FHM), and the new and spent fuel storage racks.
4. The RM and FHM/spent fuel handling tool (SFHT) gripper assemblies are designed to prevent opening while the weight of the fuel assembly is suspended from the grippers.
5. The lift height of the RM mast and FHM hoist(s) is limited such that the minimum required depth of water shielding is maintained.
6. The RM and FHM are designed to maintain their load carrying and structural integrity functions during a safe shutdown earthquake.
7. The new and spent fuel storage racks maintain the effective neutron multiplication factor required by 10 CFR 50.68 limits during normal operation, design basis seismic events, and design basis dropped spent fuel assembly accidents over the spent fuel storage racks.

Inspections/Tests/Analyses

Inspection of the system will be performed.

The RM and FHM/SFHT gripper assemblies will be tested by operating the open controls of the gripper while suspending a dummy fuel assembly.

The RM and FHM will be tested by attempting to raise a dummy fuel assembly.

- i) Inspection will be performed to verify that the RM and FHM are located on the nuclear island.
- ii) Inspection will be performed to verify that the new and spent fuel storage racks are located on the nuclear island.

Acceptance Criteria

The FHS has the RM, the FHM, and the new and spent fuel storage racks.

The RM and FHM/SFHT gripper assemblies will not open while suspending a dummy test assembly.

The bottom of the dummy fuel assembly cannot be raised to within 24 ft, 6 in. of the operating deck floor.

- i) The RM and FHM are located on the nuclear island.
- ii) The new and spent fuel storage racks are located on the nuclear island.

ITAAC Determination Basis

This ITAAC required inspections and testing to demonstrate that the Fuel Handling and Refueling System (FHS) has the refueling machine (RM), the fuel handling machine (FHM), and the new and spent fuel storage racks; that the RM and FHM/spent fuel handling tool (SFHT) gripper assemblies are designed to prevent opening while the weight of the fuel assembly is suspended from the grippers; that the lift height of the RM mast and FHM hoist(s) is limited such that the minimum required depth of water shielding is maintained; that the RM and FHM are designed to maintain their load carrying and structural integrity functions during a safe shutdown earthquake; and that the new and spent fuel storage racks maintain the effective neutron multiplication factor required by 10 CFR 50.68 limits during normal operation, design basis seismic events, and design basis dropped spent fuel assembly accidents over the spent fuel storage racks.

2. The FHS has the RM, the FHM, and the new and spent fuel storage racks.

A walkdown inspection of the as-built FHS was conducted to confirm that the FHS has the RM, the FHM, and the new and spent fuel storage racks. In accordance with ITAAC Technical Report SV4-FHS-ITR-800004 (Reference 1), a walkdown inspection was performed, which involved visual observations of the RM, the FHM, and the new and spent fuel storage racks. The inspection results are documented in the Unit 4 Principal Closure Document (Reference 1) and verify the FHS has the RM, the FHM, and the new and spent fuel storage racks.

Reference 1 documents the inspection and is available for NRC inspection.

4. The RM and FHM/SFHT gripper assemblies will not open while suspending a dummy fuel assembly.

Testing was performed in accordance with 4-FHS-ITPP-503, Auxiliary Building Fuel Handling Equipment Preoperational Test Procedure for Unit 4. A dummy test assembly is lifted by the Fuel Handling Machine using the preoperational test procedure to a sufficient height to be fully suspended. At this height, the open controls for the FHM/SFHT grippers were exercised for releasing the test assembly. The grippers did not open. Thus, the FHM grippers meet the acceptance criteria in that they do not open while suspending a dummy test assembly.

A dummy test assembly was lifted by the Refueling Machine using 4-FHS-ITPP-504, Containment Building Fuel Handling Equipment Preoperational Test Procedure to a sufficient height to be fully suspended. At this height, the open controls for the RM grippers were exercised for releasing the test assembly. The grippers did not open. Thus, the RM grippers meet the acceptance criteria in that they do not open while suspending a dummy test assembly.

Reference 2 documents the test results and is available for NRC inspection.

5. The bottom of the dummy fuel assembly cannot be raised to within 24 ft, 6 in. of the operating deck floor.

Testing was performed in accordance with 4-FHS-ITPP-503, Auxiliary Building Fuel Handling Equipment Preoperational Test Procedure for Unit 4. A dummy fuel assembly is lifted by the FHM to the upper hard stop using the preoperational test procedure. The distance between the bottom of the dummy fuel assembly and the operating deck floor is measured. The measured value is 24 feet and 9 inches for Unit 4 which is greater than 24 ft, 6 inches. This demonstrates the FHM meets the acceptance criteria that the bottom of the dummy fuel assembly cannot be raised to within 24 ft, 6 inches of the operating deck floor.

A dummy fuel assembly was lifted by the Refueling Machine to its highest location into the mast using 4-FHS-ITPP-504, Containment Building Fuel Handling Equipment Preoperational Test Procedure. The distance between the bottom of the dummy fuel assembly and the operating deck floor was measured. The measured value is 24 feet and 10 ²³/₃₂ inches for Unit 4 which is greater than 24 ft, 6 inches. This demonstrates the RM meets the acceptance criteria that the bottom of the dummy fuel assembly cannot be raised to within 24 ft, 6 inches of the operating deck floor.

Reference 2 documents the test results and is available for NRC inspection.

6.i) The RM and FHM are located on the nuclear island.

To assure that the RM and the FHM maintain their load carrying and structural integrity functions during a safe shutdown earthquake, these components are designed to be located on the seismic Category I Nuclear Island. In accordance with ITAAC Technical Report SV4-FHS-ITR-800004 (Reference 1), an inspection was conducted of the RM and FHM and confirms the satisfactory installation of these components to ensure they maintain their load carrying and structural integrity functions during a safe shutdown earthquake. The inspection verified the RM and FHM installed locations, with the RM being installed in Containment, Room 11500 (Operating Deck) and the FHM being installed in the Auxiliary Building, Room 12562 (Fuel Handling Area).

The inspection results are documented in Unit 4 Principal Closure Document (Reference 1) which concluded that the RM and FHM are located on the nuclear island and meet the ITAAC acceptance criteria.

Reference 1 documents the inspection and is available for NRC inspection.

7.ii) The new and spent fuel storage racks are located on the nuclear island.

To assure that the new and spent fuel storage racks maintain the effective neutron multiplication factor required by 10CFR 50.68 limits during normal operation, design basis seismic events, and design basis dropped spent fuel assembly accidents over the spent fuel storage racks, the new and spent fuel storage racks are designed to be located on the seismic Category I Nuclear Island. In accordance with ITAAC Technical Report SV4-FHS-ITR-800004 (Reference 1), an inspection was conducted of the new and spent fuel storage racks to confirm the satisfactory installation of these components to maintain the effective neutron multiplication factor required by 10 CFR50.68 limits during normal operation, design basis seismic events, and design basis dropped spent fuel assembly accidents over the spent fuel storage racks. The inspection verified the new and spent fuel storage racks were installed in the Auxiliary Building in Room 12562 (Fuel Handling Area).

The inspection results were documented in Unit 4 Principal Closure Document (Reference 1) which concluded that the new and spent fuel storage racks are located on the nuclear island and meet the ITAAC acceptance criteria.

Reference 1 documents the inspection and is available for NRC inspection.

Together, these inspections, tests, and reports (References 1 and 2) provided evidence that the ITAAC Acceptance Criteria requirements are met:

- The FHS has the RM, the FHM, and the new and spent fuel storage racks;
- The RM and FHM/SFHT gripper assemblies will not open while suspending a dummy fuel assembly;
- The bottom of the dummy fuel assembly cannot be raised to within 24 ft, 6 in. of the operating deck floor;
- The RM and FHM are located on the nuclear island; and
- The new and spent fuel storage racks are located on the nuclear island.

References 1 and 2 are available for NRC inspection as well as the Unit 4 ITAAC 2.1.01.04 Completion Package (Reference 3).

ITAAC Finding Review

In accordance with plant procedures for ITAAC completion, Southern Nuclear Operating Company (SNC) performed a review of all findings pertaining to the subject ITAAC and associated corrective actions. This review found there are no relevant ITAAC findings associated with this ITAAC. The ITAAC completion review is documented in the ITAAC Completion Package for ITAAC 2.1.01.04 (Reference 3) and is available for NRC review.

ITAAC Completion Statement

Based on the above information, SNC hereby notifies the NRC that ITAAC 2.1.01.04 was performed for VEGP Unit 4 and that the prescribed acceptance criteria were met.

Systems, structures, and components verified as part of this ITAAC are being maintained in their as-designed, ITAAC compliant condition in accordance with approved plant programs and procedures.

References (available for NRC inspection)

1. SV4-FHS-ITR-800004, Rev. 0, "ITAAC Technical Report, Inspection Results of Refueling Machine (RM), Fuel Handling Machine (FHM), and New and Spent Fuel Storage Racks: ITAAC 2.1.01.04 Items 2, 6.i, and 7.ii, NRC Index Number: 4"
2. SV4-FHS-ITR-801004, Rev. 0, "ITAAC Technical Report, Inspection Results of Refueling Machine (RM), Fuel Handling Machine (FHM), and Spent Fuel Handling Tool (SFHT): ITAAC 2.1.01.04 Items 4 and 5, NRC Index Number 4"
3. 2.1.01.04-U4-CP-Rev0, "ITAAC Completion Package"